

**IN THE DRAWINGS:**

The attached Replacement Sheet 1/4 includes a change to Figure 1 wherein the element 110 has been changed from a “D/A” to an “A/D.” Replacement Sheet 1/4 replaces existing sheet 1/4.

Attachment: Replacement Sheet 1/4

## **REMARKS/ARGUMENTS**

The Applicants originally submitted Claims 1-21 in the application. The Applicants have not amended, canceled or added any claims. Accordingly, Claims 1-21 are currently pending in the application.

### **I. Formal Matters and Objections**

The Examiner asserts that Figure 1 illustrates only that which is known and has objected thereto for lacking the legend “Prior Art.” The Applicants respectfully disagree since Figure 1 illustrates an embodiment of a quadrature amplitude modulated (QAM) digital communications receiver that provides an environment for the present invention. More specifically, the receiver of Figure 1 includes a slicer 140 wherein recognizing zero-amplitude symbols as disclosed in the present invention may occur. (*See* paragraph 24, pages 9-10.) Thus, instead of prior art, Figure 1 illustrates a receiver incorporating the present invention in the slicer 140. Accordingly, the Applicants respectfully request the Examiner to withdraw the objection of Figure 1.

The Examiner has also commented on paragraphs 19-20 of the specification. In response, the Applicants have addressed the Examiner’s comments by amending paragraphs 19-21 and Figure 1 as discussed below regarding the §112, first paragraph rejection.

### **II. Rejection of Claims 15-21 under 35 U.S.C. §112**

The Examiner has rejected Claims 15-21 under 35 U.S.C. §112, first paragraph, for failing to comply with the enablement requirement. In response, the Applicants have amended paragraphs 19-21 and Figure 1 of the specification to more clearly explain that the QAM digital communication

receiver 100 converts a received signal to digital samples. The digital equivalent of the received signal is then demodulated, equalized, *etc.* This amendment does not add new matter but corrects the description of the operation and construction of a QAM digital communications receiver wherein the present invention may be employed. Accordingly, the Applicants respectfully request the Examiner to withdraw the §112, first paragraph rejection and allow issuance of Claims 15-21.

### **III. Comment on Cited Reference**

The Examiner relies on U.S. Patent Applicant Publication No. 2002/0037062 by Riess, *et al.* in the below §103(a) rejections of Claims 1-21. In response to the Examiner's reliance on Riess, the Applicants submit herewith Affidavits under 37 C.F.R. §1.131 of the inventors and Exhibits A-D. Exhibit A is a true and correct copy of an invention submission form and Exhibits B-D are copies of correspondence associated with the present application.

The Affidavit and Exhibit A conclusively provide evidence that establishes the present invention was conceived prior to the earliest filing date of Riess (April 18, 2001). The Affidavit and Exhibits B-D demonstrate diligence from conception of the invention to reduction to practice at the filing of the present application. As a result, Riess is antedated by the present invention and is not prior art.

### **IV. Rejection of Claims 1-14 under 35 U.S.C. §103**

The Examiner has rejected Claims 1-14 under 35 U.S.C. §103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of U.S. Patent No. 4,562,425 to Turner, *et al.* in further view of Riess. The Applicants disagree.

The Examiner recognizes that neither the AAPA nor Turner teach or suggest recognizing zero-amplitude symbols in a QAM signal including recognizing a candidate symbol as being a zero-amplitude symbol when the candidate symbol is closer to an origin of a constellation than to symbols proximate thereto as recited in independent Claims 1 and 8. (*See Examiner's Action*, page 5.) To cure this deficiency, the Examiner cites Riess. As discussed above, Riess is not prior art. Thus, even if Riess does cure the deficiencies of the AAPA and Turner, a *prima facie* case of obviousness of independent Claims 1 and 8 and Claims dependent thereon has not been provided since Riess is not prior art. Accordingly, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 1-14 and allow issuance thereof.

**V. Rejection of Claims 15-21 under 35 U.S.C. §103**

The Examiner has rejected Claims 15-21 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,553,087 to Alelyunas, *et al.* in view of AAPA in further view of Turner and in further view of Riess. The Applicants disagree.

The Examiner recognizes that neither Alelyunas, the AAPA nor Turner teach or suggest a zero-amplitude symbol interpreter that recognizes a candidate symbol as being a zero-amplitude symbol when the candidate symbol is closer to an origin of a constellation than to symbols proximate thereto as recited in independent Claim 15. (*See Examiner's Action*, page 8.) To cure this deficiency, the Examiner cites Riess. As discussed above, Riess is not prior art. Thus, even if Riess does cure the deficiencies of Alelyunas, the AAPA and Turner, a *prima facie* case of obviousness of independent Claim 15 and Claims dependent thereon has not been provided since

Riess is not prior art. Accordingly, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 15-21 and allow issuance thereof.

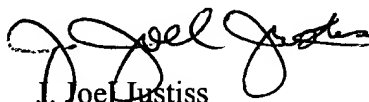
**VI. Conclusion**

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-21.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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